

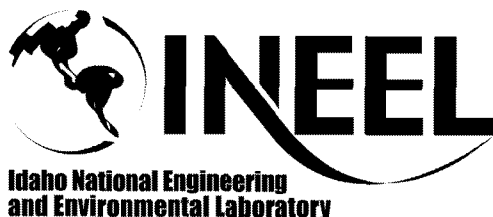
6.3 Major Equipment Identification

List

PROJECT FILE NO. 021052

Major Equipment Identification for the OU 7-10 Glovebox Excavator Method Project

Prepared for:
U.S. Department of Energy
Idaho Operations Office
Idaho Falls, Idaho



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Applicability: Environmental Restoration	Type: List	For Additional Info: http://EDMS
		Effective Date: 9/19/2002
Change Number: 95032		

Equipment	Make/Model/ Supplier(s)	Notes
Packaging Glovebox System		
Packaging gloveboxes	Absolute	Primary components include support structure, operating platforms, and glovebox structural frames.
Gloveports	Absolute	Includes 8-in. round gloveports and oval gloveports.
Glovebox windows	D-Fence glass, North American Sully, Absolute	
PGS glovebox lighting	Absolute	
Glovebox bag-out ring covers	Absolute	
Differential pressure gages		
Remote-controlled 1-ton hoists	Coffing, Absolute	Bulkhead connections through the confinement boundary are safety-significant.
PGS automatic fire suppression system [within the PGS structure]		Penetrations through the confinement boundary are safety significant. Includes mist nozzles, piping within the PGS, notification equipment, isolation valves, and supply system.
Glovebox safety beam	STI BeamSafe II, Absolute	Includes transmitters, receivers, transmitter cables, receiver cables, and 10X8X6 enclosures and panels (light curtain terminal blocks).
Drum-loadout enclosure tents	BBWI carpenter Tent Shop	
Drum-loadout enclosure filter stand and filters	BBWI Force Account Crafts	
Drum-loadout enclosure lift tables		
Drum-loadout enclosure tent fire suppression		
PGS material transfer cart System	Absolute	Primary components include drive carts, auxiliary carts, frame/rail structure in RCS, cart rails, drive system, and cart crush pads.
Cart protection structure (in RCS)		
Cart protection spill pan		

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Equipment	Make/Model/ Supplier(s)	Notes
Excavation System		
Excavator (backhoe)	Model No. 446B, Caterpillar Co.	
Excavator/RCS interface weld-on plates (excavator inner seal)		
Excavator/RCS interface seal material (excavator outer seal)		
Excavator stops		Limits for boom movement.
Excavator stands		
Excavator bulkhead fittings		
Excavator drip pans		That is, excavator catch basins for diesel fuel, hydraulic fluid, and battery.
Hydraulic pressure gage	4000 CMM 6-in., Heise	For weighing excavated loads with an accuracy of +/- 20 lb.
Excavator brake pump cover		
SST HEPA filter		Hydraulic oil breather unit.
Excavator exhaust fume ventilation system		Primary components include exhaust ducting and exhaust fan.
Excavator end-effectors with remote couplers	Western States Equipment	Includes hydraulic hammer, 16-in. wide bucket, 24-in. wide jaw bucket, 24-in. wide bucket, drum puncture tool, drum sizing tray, and probe puller clamp.
End-effector stand		Includes hydraulic hammer stand, jaw bucket stand, and drum puncture tool stand.
Material storage bins		Storage of absorbent (vermiculite) and fire suppressant (magnesium oxide).
Weather Enclosure Structure		
Structure	Universal Fabric	Structural steel framing, structural connections, skin (i.e., fabric cover).
Stairs		
Personnel doors	Universal Fabric	
Overhead doors	Universal Fabric	
Access control equipment	BBWI Standards & Security	Lock set cylinder cores.

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Equipment	Make/Model/ Supplier(s)	Notes
Retrieval Confinement Structure		
RCS structure	NFS/RPSI Kelly Klosures	Constructed of interlocking prefabricated panels. Includes personnel access airlock, transfer vestibule, and emergency egress airlock.
RCS doors	NFS/RPSI Kelly Klosures	
RCS windows	NFS/RPSI Kelly Klosures	
Gloveports and sample ports in RCS structure		
Facility Floor Structure		
Structural steel floor framing, shoring box, floor decking, floor plates	American Fabrications	
Guard rail/fall protection		Around excavation opening.
Heating and Ventilation System (Weather Enclosure Structure, Retrieval Confinement Structure, and Packaging Glovebox System)		
Exhaust stack and foundation		
H&V ductwork (up to HEPA filters)		
H&V ductwork (past HEPA filters)		
Main exhaust HEPA Filter housing	Flanders	
RCS inlet HEPA filter housing	Flanders	
Inlet HEPA filter housings	Flanders	Various including PGS inlets.
HEPA filters	Flanders	
Main exhaust fans		Located at exhaust stack.
Heaters		Electrical resistance heating units.
Vacuum relief damper with actuator		
WES penthouse ductwork and damper assembly		

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Equipment	Make/Model/ Supplier(s)	Notes
Electrical Power and Lighting System		
Optional standby generator	Western States Equipment	
Skid-mounted load center		
Power transfer switchgear		
Electrical power cabling/wiring/conduit		To and from load center and automatic transfer switch.
Electrical switches		Includes lighting switches and disconnect switches.
Electrical receptacles		
Cable trays		
Breaker panels and breakers		From supply to load center and from load center to project.
Motor control centers/distribution panels		
Electrical transformers		To and from load center.
Facility lighting		Includes lighting fixtures and emergency/egress lighting.
Dust Suppression System		
Water storage tank		
Spray nozzles fog nozzles		
Tubing		Penetrations through confinement boundary are safety-significant.
Control module		
Skid-mounted pumps		
Plant Air System		
Compressor, receiver tank, piping, and oil/water separator	INEEL Systems	Supports the dust suppression system.
Breathing Air System		
Compressor, receiver tank, piping, and manifold	INEEL Systems	
Criticality Monitoring		
Criticality alarm system		Includes control console and detectors.
Criticality alarm control enclosure		
Exterior and interior CAS poles and alarms		

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Equipment	Make/Model/ Supplier(s)	Notes
Fire Protection		
Fire water supply piping		
Sprinkler riser building		
Fire hydrant(s)		
WES and RCS automatic dry-pipe sprinkler system		Bulkhead penetrations through the confinement boundary are safety- significant. Major components include sprinklers, compressed air supply, piping, notification equipment, and isolation valves.
Fire detection and alarm system		Bulkhead penetrations through the confinement boundary are safety- significant. Major components include manual fire alarm stations, occupant notification appliances, data wiring, CO detectors, and smoke detectors.
Portable fire extinguishers		

Instrumentation and Control

Monitoring and control (programmable logic controller system)		Includes, for example, 150-point HMI software for monitoring and control PC, Logix 5550 controller, ControlNet communication module, and 120 VAC power supply for PLC rack.
Monitoring and control (miscellaneous M&C hardware)	Sola/Hevi-Duty, Grace Engineered Products	Includes, for example, variable frequency drives, E-stops, and industrial horn with amber beacon.

Radiological and Industrial Hygiene Monitoring

Alpha CAMs	Eberline Alpha-7
Beta CAMs	Eberline AMS-4
CAM carts	HI-Q Environmental MSC
RAMs	Eberline EC4-X
PCMs	Eberline PCM-2
Table for CAMs and RAMs	McMasters-Carr Supply Company

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Equipment	Make/Model/ Supplier(s)	Notes
Hand monitors (various)	Bicron NE SHM4, Ludlum 3, Eberline R0-20, W. B. Johnson Teletector, Health Physics Instruments	Including beta/gamma, alpha, gamma dose rate, gamma survey, and neutron survey monitors.
Hand monitor/RAM mounting bracket		
Lapel air samplers	SKC Inc., 210-2002	
Portable air samplers	Hi Q Environmental, MRV-0523 CV	
RCIMS station with electronic dosimeters		Will obtain one RCIMS station from RWMC.
Smear counters	Protean MCP-2000B- DP	
RadCon counting/storage tables	McMasters-Carr Supply Company 5167T57	
Dosimetry	SAIC PD-3I	Electronic personnel dosimeters.

Emissions Monitoring

Sample lines
Data/power cabling
Emissions monitoring cabinet
Shrouded probes

Fissile Material Monitor System

Fissile material detector	INEEL R&D (Ortec SDG-GEM)
Scale	INEEL R&D (Entran MM50)
Touch screens	INEEL R&D (Cyberresearch)
Flat panel computers	INEEL R&D (Cyberresearch)
Shielding	INEEL R&D
Power cabling	INEEL R&D
Data cabling	INEEL R&D
Sample bucket	INEEL R&D
Digi-dart	INEEL R&D (Ortec)
UPS	INEEL R&D (Ortec)

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Equipment	Make/Model/ Supplier(s)	Notes
Detector cooler	INEEL R&D (Ortec X-cooler)	
Host computer		Standard MS Windows desktop personal computer.
Eu-152 performance check sources		

Closed Circuit Television System

CCTV cameras		
CCTV CRT monitors		
Video cassette recorders		
Pan and tilt actuators		
Camera control units		For digface and glovebox cameras.
Remote function control matrix		
Monitor input select switch		
CCTV cabling		
Excavator control panel		
Video equipment racks		
Video monitor display	Strongarm 503-LP2H04-181000-37574	Including mounting hardware.
Lockable video storage		

Storage

Portable storage units		Needed if WMF-628 is not used.
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Drum Assay Trailer

Portable storage units		Subcontracted function and equipment.
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Facility Furnishings

Personnel lockers		
Storage cabinets		

BBWI Operations Consumables/Equipment

Smear counting glovebox		Not an all-inclusive list.
Drums		Including 55-gal and 85-gal drums and associated liners (90 mil), bags with built-in filter vents, lids with filter vents, locking rings, and pallets.
Portable electric tools		Including, but not limited to, sawzalls, nibbler, and shop vacuums.

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Gloves		Round/oval glovebox gloves, leather overgloves, etc. Also includes glove ejection tools.
PPE		Includes, for example, anti-c clothing, safety glasses, hard hats, safety-toe boots, fall protection equipment, respirators, hearing protection, and heat stress vests.
Hand tools		Various long-reach tools for use in gloveboxes including, but not limited to hoes, rakes, and grabbers. Also includes shovels and picks, as well as wrenches, for working on hydraulic hammer attachments.
55-gal drum rigging		For hoisting intact drums.
Transfer cart liners		Includes both flat and pocketed.
Excavator refueling equipment		Includes fill system, pump, tank, and cart.
RCT supplies		Tape, swipes, bags, plastic sheets, bag-out sleeves, sealer, decon bottles and solution, decon rags, etc.
Absorbent		For digface/PGS—vermiculite.
Overburden equipment and supplies		Soil sacks, soil boxes for supporting soil bags during filling.
Fire suppressant		For digface/PGS—magnesium oxide.
Probe pulling caps		
Video cassettes		
Emergency Equipment		Not an all-inclusive list.
Eye wash stations		
All purpose spill kit (oil/anti-freeze/acid)		
Emergency communications equipment (landline/cell phone/radios/alarms/throat microphones)		
Aerial lift		
Cooling fans		
First aid kits		
Radiological spill control kits		

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Equipment	Make/Model/ Supplier(s)	Notes
Mobile Material Handling		
Motorized pallet jack		For moving filled soil sacks/boxes inside the RCS.
Drum handling forklift		Operated within the WES, including associated charging station.
Drum dolly		
All-terrain forklift		Multipurpose, outside use.
Sampling Equipment		
Not an all inclusive list.		
French cans	CRL	Rapid sample transfer unit
French can beta-flange	CRL	Rapid sample transfer unit mating flange for gloveboxes (including INTEC)
French can shipping containers		
Sample storage refrigerator		
Underburden sample tubes		
Underburden sample shipping containers		

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<u>ACRONYMS</u>		
BBWI-Bechtel BWXT Idaho, LLC		
CAM-continuous air monitor		
CCTV-closed-circuit television		
CG-consumer grade		
CRT-cathode ray tube		
H&V-heating and ventilation		
HEPA-high-efficiency particulate air		
HMI-human-machine interface		
INEEL-Idaho National Engineering and Environmental Laboratory		
INTEC-Idaho Nuclear Technology and Engineering Center		
LSC-low safety consequence		
M&C-monitoring and control		
MS-Microsoft		
PC-personal computer		
PCL-personnel contamination monitor		
PGS-Packaging Glovebox System		
PLC-programmable logic controller		
PPE-personal protective equipment		
RadCon-Radiological Control		
RAM-radiation air monitor		
RCIMS-Radiological Control Information Management System		
RCS-Retrieval Confinement Structure		
RCT-radiological control technician		
RWMC-Radioactive Waste Management Complex		
SS-safety-significant		
SST-stainless steel		
UPS-uninterruptible power supply		
WES-Weather Enclosure Structure		
WMF-Waste Management Facility		